

EN-050

MANPOWER NEEDS OF THE
NUCLEAR POWER INDUSTRY AND
FEDERAL EFFORTS TO MEET THOSE
NEEDS

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UNITED STATES GENERAL ACCOUNTING OFFICE

WASHINGTON, D.C. 20548

RESOURCES AND ECONOMIC
DEVELOPMENT DIVISION

JUL 22 1974

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The Honorable Dixy Lee Ray
Chairman, Atomic Energy Commission

Dear Dr. Ray:

We have surveyed the manpower needs of the nuclear power industry and the activities of the Atomic Energy Commission (AEC) and other Federal agencies to help meet those needs. AEC and other Federal agencies have taken steps and are planning additional measures to insure an adequate supply of trained manpower to carry out nuclear power energy activities. Therefore, we do not plan any further work in this area at this time; however, we would like to bring the results of our survey to your attention, with the view that they might help you plan further actions in the manpower area.

Because the availability of trained manpower is important to the safe and timely design, construction, and operation of nuclear powerplants, we were interested in

- whether sufficient trained manpower was and would be available to support the growing number of nuclear plants becoming operable and being constructed and planned,
- the effects any shortages of manpower might have on nuclear powerplant construction schedules, and
- the efforts of AEC and other Federal agencies to (1) assess the manpower needs of the nuclear power industry and (2) help insure the availability of a continuing supply of qualified manpower.

We made our survey at AEC Headquarters in Germantown and Bethesda, Maryland, and at AEC's Oak Ridge Operations Office and the Oak Ridge National Laboratory, Oak Ridge, Tennessee. We also held discussions with officials of the Federal Energy Administration (FEA) and the Department of Labor.

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To obtain information on the current and future manpower situation in the nuclear power industry and the effects of any manpower shortages on nuclear powerplant construction schedules, we interviewed representatives of several (1) electric utilities, architect-engineering firms, and reactor manufacturers involved in designing, constructing, and operating nuclear powerplants throughout the United States and (2) professional and educational organizations involved in the nuclear energy field and in engineering, scientific, and technical manpower assessments.

SURVEY RESULTS

In general, representatives of the nuclear power industry told us that, although they were having some problems obtaining certain types of manpower, they did not consider the lack of trained manpower to be currently a serious cause of delays in bringing nuclear powerplants on line. They indicated that they were having the greatest difficulty obtaining engineers with nuclear experience, such as those in the quality assurance area, and certain skilled craftsmen, such as pipefitters and welders. The representatives stated almost unanimously that they expected shortages of trained manpower to become a more serious problem in the future but that they were taking various steps to help avert any possible shortages. These steps included

- establishing training courses for skilled craftsmen,
- conducting special training programs for engineers and other professionals who lack nuclear experience, and
- using more technicians, where possible, to perform engineering duties.

AEC has for many years conducted and sponsored various education and training programs to help insure a continuing supply of trained manpower in the nuclear energy field. AEC has also conducted and sponsored assessments of the various segments of the nuclear energy field to determine potential manpower needs and availability.

In recent years, however, the education and training activities of AEC, as well as other Federal agencies, have decreased for budgetary reasons; in some cases major programs, such as AEC's graduate fellowship and traineeship program, have either been reduced or terminated. In addition, AEC and other Federal agencies which we contacted did not, in our opinion, have enough information on the projected need for and availability of the various types of manpower to support the design, construction, operation, and maintenance of the increasing number of nuclear powerplants being planned for the future.

Thus, it seems to us that, although AEC and the Federal Government have been promoting nuclear power to help solve the Nation's energy problems, they have placed decreasing emphasis on programs for insuring the continued availability of trained manpower and for assessing the nuclear industry's manpower needs.

ACTIONS BEING TAKEN

During our survey the President expressed concern about the delays being experienced in constructing nuclear powerplants and announced a national goal of achieving energy self-sufficiency. In response FEA, Labor, and AEC took a number of steps aimed at identifying and assessing the problems of achieving energy self-sufficiency, including problems related to delays in constructing nuclear powerplants.

In early 1974 FEA asked Labor to (1) take the Federal leadership in collecting data on the amount and types of manpower required to increase domestic energy production to achieve national energy self-sufficiency and (2) make recommendations for increasing manpower supplies where potential shortages were identified. As part of this effort, Labor asked AEC to provide such information for different production levels and time periods as it related to the design, construction, operation, and maintenance of nuclear powerplants. AEC is developing this information.

To reduce the construction time for nuclear powerplants from 10 years to 6 years, as the President requested, AEC had a study made of the factors contributing to delays in the construction of nuclear plants. AEC reported the results of this study, together with recommendations, in an action plan released in April 1974. The plan included recommendations aimed at alleviating manpower shortages.

Recently, officials of AEC's Division of Labor Relations told us that they recognized the need for comprehensive manpower planning, development, and use in view of (1) the national goal to achieve energy self-sufficiency, (2) the recommendations in AEC's action plan, and (3) FEA's and Labor's recent efforts. They stated that, to meet this need, they were designing a manpower action plan to help coordinate and give central focus to AEC's manpower assessment activities and the education and training programs presently being carried out by various program divisions within AEC.

According to Division of Labor Relations officials, the manpower action plan would be aimed at strengthening and improving AEC's manpower management and would involve (1) assessments of the regional and national manpower needs of the nuclear energy field and (2) establishment

and implementation of education and training programs to help meet those needs. The plan would provide for a manpower advisory group, comprising representatives of AEC's various program divisions, to coordinate AEC's manpower assessment, and education and training activities.

Nuclear power is expected to generate a major portion of this Nation's electrical energy in the future and make an important contribution toward achieving the national energy self-sufficiency goal. We believe that the manpower action plan, including the establishment of the manpower advisory group, is a step in the right direction. If properly implemented, the plan should help insure that adequate trained manpower is available to carry out nuclear energy activities in a safe and timely manner.

Because nuclear energy is important in helping to meet the energy self-sufficiency goal, we plan to closely follow the efforts of AEC and other Federal agencies in assessing and insuring the availability of manpower in the nuclear area. Accordingly, we would appreciate being advised of the specific steps AEC takes to implement the manpower action plan and to strengthen and improve AEC's manpower management.

We appreciate the courtesy and cooperation extended to our representatives during this survey.

61 We are sending copies of this report to the Chairman, Joint Committee on Atomic Energy; the Secretary of Labor; and the Administrator, Federal Energy Administration.

Sincerely yours,



Henry Eschwege
Director